SANTA CRUZ BIOTECHNOLOGY, INC.

H2-D^{d} siRNA (m): sc-72171

BACKGROUND

Major histocompatibility complex (MHC) molecules, which include human leukocyte antigens (HLAs), form an integral part of the immune response system. They are cell-surface receptors that bind foreign peptides and present them to cytotoxic T lymphocytes (CTLs). MHC class I molecules consist of two polypeptide chains, an α or heavy chain and a non-covalently associated protein, β-2-Microglobulin. MHC class II molecules consist of a non-covalent complex of an α and β chain. The differential structural properties of MHC class I and class II molecules account for their respective roles in activating different populations of T lymphocytes. H2-D^{d} is a MHC class I molecule involved in the presentation of foreign antigens to the immune system. Both murine Ly-49D and Ly-49A are receptors for H2-D^{d}.

REFERENCES

1. Evans, G.A., Margulies, D.H., Shykind, B., Seidman, J.G. and Ozato, K. 1983. Exon shuffling: mapping polymorphic determinants on hybrid mouse transplantation antigens. Nature 300: 755-757.
2. Otten, G.R., Bikoff, E., Ribaudo, R.K., Kozlowski, S., Margulies, D.H. and Germain, R.N. 1992. Peptide and β-2-Microglobulin regulation of cell surface MHC class I conformation and expression. J. Immunol. 148: 3723-37232.
3. Kane, K.P. 1994. Ly-49 mediates EL4 lymphoma adhesion to isolated class I major histocompatibility complex molecules. J. Exp. Med. 179: 1011-1015.
4. Mason, L.H., Ortaldo, J.R., Young, H.A., Kumar, V., Bennett, M. and Anderson, S.K. 1995. Cloning and functional characteristics of murine large granular lymphocyte-1: a member of the Ly-49 gene family (Ly-49G2). J. Exp. Med. 182: 293-303.

CHROMOSOMAL LOCATION

Genetic locus: H2-D1 (mouse) mapping to 17 B1.

PRODUCT

H2-D^{d} siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see H2-D^{d} shRNA Plasmid (m): sc-72171-SH and H2-D^{d} shRNA (m) Lentiviral Particles: sc-72171-V as alternate gene silencing products.

For independent verification of H2-D^{d} (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72171A, sc-72171B and sc-72171C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

H2-D^{d} siRNA (m) is recommended for the inhibition of H2-D^{d} expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

H2-D^{d} (34-5-8S): sc-52542 is recommended as a control antibody for monitoring of H2-D^{d} gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor H2-D^{d} gene expression knockdown using RT-PCR Primer: H2-D^{d} (m)-PR: sc-72171-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.